Specialized Geriatric Assessment Units and Their Clinical Implications

LAURENCE Z. RUBENSTEIN, MD, MPH, *Sepulveda, California*

Geriatric assessment units are among the several innovative responses by members of the US health care system to the many unmet needs facing elderly people who are frail and ill. Based on British models, these units are designed to improve the assessment of medical and psychosocial problems, to provide therapy and rehabilitation, and to determine optimal posttherapy placement at as high a level of independent functioning as possible. While generally similar, the structures and functions of various North American units vary considerably in such areas as type of patients accepted, amount of rehabilitation carried out and type of institutional setting (such as chronic-care hospital, acute-care hospital or outpatient facility). These differences have a bearing on outcomes. Though few experimental studies exist, impacts from the units appear to be substantial, and include more thorough diagnosis, higher levels of patient functioning and improved placement. Physicians can apply several of the lessons from these units to improve their care of elderly patients.

IT IS WELL KNOWN that elderly patients have more varied problems and health care needs than do most younger patients. These patients, particularly the frail elderly, characteristically have a multiplicity and chronicity of medical disorders, coexisting and interrelated psychological problems and progressive social isolation. Such numerous and interacting problems make caring for elderly patients particularly challenging.

There is a growing awareness that today's health professionals are failing to meet the complex care needs of the elderly. Among several fundamental deficiencies are inappropriately admitting patients to institutions who could better be living at home, lack of alternative care options or home-based services as substitutes for institutionalization, frequently incomplete and inaccurate medical assessments, lack of quality assurance mechanisms within nursing homes and other long-term care facilities, large inequalities among patients in medical insurance coverage and availability of community resources and a major shortage of well-trained and concerned professionals in primary and long-term geriatric care.[1-3]

Probably the most important of these problems is inappropriate admission to an institution. Many recent studies have concluded that a substantial proportion, perhaps a third, of elderly patients in long-term care facilities could live at home or in facilities providing lower levels of medical care.[4-8] Inappropriately admitting a patient to an

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Dr. Rubenstein is Chief, Geriatric Evaluation Unit and Assistant Clinical Director, Geriatric Research, Education, and Clinical Center, Sepulveda Veterans Administration Medical Center, Sepulveda, California; Assistant Professor, Department of Medicine, UCLA School of Medicine, Los Angeles.

Reprint requests to: Laurence Z. Rubenstein, MD, GRECC—11E, Veterans Administration Medical Center, 16111 Plummer Street, Sepulveda, CA 91343.

institution is not only expensive financially but it incurs major social costs because dependency is created and the potential for patients to reenter society is lessened.[3,9-12]

Awareness of these dilemmas facing elderly patients has triggered several responses from the health care sector in the areas of education, research and clinical programs. Progress has been made with the establishment and growth of schools of gerontology, the organization of geriatric medicine curricula within medical schools and other schools of health professionals and the initiation of geriatric medicine fellowship programs. One major advance in clinical programs has been the establishment of specialized geriatric assessment and rehabilitation units. These latter specialized geriatric units have taken several forms. They have been established on acute-care hospital wards, in outpatient facilities and in long-term care institutions. Some units provide comprehensive diagnostic assessment without providing therapy, others provide only minimal assessment but extensive rehabilitation, and still others combine extensive assessment with therapy and rehabilitation. While distinct from one another, and clearly still experimental, these units seem useful in beginning to bridge the serious gap that exists in care services for the elderly.

In this paper, we describe these new and proliferating geriatric units and review their history and structures. The evidence that these units are providing new and important health services to elderly people is analyzed and implications for present practitioners in their approaches to elderly patients are discussed.

History

Geriatric assessment units originated in Great Britain between the World Wars. Dr. Marjorie Warren, generally considered the founder of modern geriatrics, initiated the idea of specialized geriatric assessment units during the late 1930's while in charge of a large London workhouse infirmary. The infirmary was filled primarily with bedfast and neglected elderly patients who never received proper medical diagnosis or rehabilitation. The high-quality nursing care kept the patients alive, while the lack of diagnostic assessment and active rehabilitation kept them disabled. She systematically evaluated these patients and began policies of mobilization and selective rehabilitation. She was able to get most of the long-bedfast patients out of bed and walking and, in some cases, could get them discharged. But even under her care, many patients could not fully recover, due to their previous prolonged immobilization. As a result of her experiences, Dr. Warren advocated comprehensive assessment and an attempt at rehabilitating all elderly patients before admitting them to long-term care hospitals.

The present British system for geriatrics, largely based on the work and reports of Dr. Warren, has served as a model for geriatric care in several countries with socialized or regionalized medical systems. Under this system, termed "progressive care," all elderly patients requiring admission to hospital, except those requiring intensive medical care, are admitted to an acute-care geriatric assessment unit. There, each patient receives a comprehensive assessment of medical, functional and psychosocial problems. Care plans are established on the assessment unit, usually by an interdisciplinary team, and the next level of care and placement is decided on—whether discharge to home, to a rehabilitation ward or to a long-term care facility. Length of patient stay on an acute-care assessment unit is two to three weeks. About half of the patients are discharged home, about a third are transferred to a rehabilitation or chronic-care ward and about a fifth die while on the unit. On the rehabilitation ward, the average length of stay is two to three months. About 60 percent of these patients are discharged home or to residential homes for old people, about 25 percent are transferred to chronic-care wards and about 15 percent die on the rehabilitation ward. On the chronic-care wards, the average length of stay is two to three years, and all but about 10 percent of patients remain there until death. Specific aspects of this progressive care model differ within Britain from one region to another. The age which constitutes the dividing line between internal medicine and geriatrics, for instance, may differ, or different regions may not agree on whether elderly patients with acute illness should be admitted to medical or geriatric wards. But two concepts are firmly held throughout Great Britain, regardless of regional differences: that elderly patients need a special, more broadly based and interdisciplinary approach to their care than do younger patients, and that no patient should be admitted to a long-term care facility without a careful medical and psychosocial assessment and at least a trial of rehabilitation.[13]

Several other countries (including Sweden, Australia, Norway and Israel) have built, or are

building, geriatric care systems similar to the British system, each with centrally located geriatric assessment units. Most of this development has occurred in the past decade and few lasting models or lessons for the United States have emerged beyond those already pioneered in Britain.[13,14] In no country yet has a well-controlled study been carried out to evaluate the effectiveness of these units. However, there seems to be general agreement that they are effective. In fact, many British geriatricians would consider such a trial to be unethical, so convinced are they of the clear value of geriatric units.

The United States, without a national health care system, has not developed an organized, cohesive method for dealing with the health care needs of its elderly. Medicare pays most acute hospital care and outpatient physician costs for persons older than 65, and Medicaid covers costs of long-term medical care for the indigent. Yet there is no structured system for assessing care needs of the elderly or for systematically supplying health services to meet these needs. As a result, local and regional medical organizations and groups have been fairly free to undertake limited demonstration and experimental projects to deal with locally perceived needs. These local movements have a long history of support from private foundations and universities. Several of these local projects have provided models for implementation and study elsewhere. Among such projects are several geriatric assessment units, based on the British model, which have the express goals of decreasing morbidity, improving functioning and preventing unnecessary institutionalization of elderly patients. In the following section, we analyze the goals and structures of existing geriatric assessment units in North America described in the literature.

Objectives and Structures of Existing Geriatric Assessment Units

Geriatric assessment units in North America are considerably varied in structure and setting. The predominant model is the inpatient unit within an acute-care general hospital.[15-19] Geriatric assessment units have also been established within extended care and long-term care facilities,[20,21] as well as in outpatient settings.[4,22,23] Geriatric units within teaching hospitals have further variations in structure and theme with the addition of research and educational programs.[16,19,24]

Some inpatient geriatric units in acute-care hospitals focus on comprehensive assessment and short-term treatment of acutely ill patients without providing extensive rehabilitative therapy.[16,25] Other inpatient units provide less assessment but prolonged rehabilitation,[20,24] while others provide both comprehensive assessment and extensive rehabilitation.[17,19] Some units are basically chronic-care facilities but with the important addition of assessment and intensive rehabilitation.[9,21] Outpatient units generally provide assessment and placement services without rehabilitation.[4,23]

The target patient populations that the geriatric units serve can be differentiated in several ways: sex ratios, geographic distance from hospital, level of care needed and types of problems. For example, most patients in Veterans Administration (VA) units are men, while in non-VA units, women predominate. Geographically, patients in VA facilities come from designated regional catchment areas that are usually quite large. Non-VA facilities generally derive their patients from their respective communities, usually much smaller than the VA catchment areas.

The various geriatric units differ in the types of patients they accept. For example, some units accept patients referred primarily for nursing home placement, but without acute illness.[4,23,25] Other units accept patients primarily with psychiatric problems.[15,26,27] Other units accept patients with acute medical illness.[16,28] And still other units select their patients from acute medical and surgical wards following recovery from the acute phases of illness but requiring further evaluation and rehabilitation.[17,19]

The interdisciplinary team approach for geriatric assessment has become the predominant mode of practice in North American geriatric evaluation units. These interdisciplinary teams usually consist of physicians, physician assistants or nurse practitioners (or both), nursing staff, social workers, psychologists and representatives from ancillary services, such as occupational therapy, physical therapy, dietetics, audiology and dentistry. Each team member is responsible for patient assessments in his or her field of expertise. The entire team monitors progress in assessment and reevaluates therapeutic goals and plans during periodic team meetings.

Several of the geriatric units combine their therapeutic functions with education and research in geriatric medicine and gerontology, often through university affiliation and support.[16,19] Some units possess other special features, such as

geriatric day hospitals[9] and outpatient follow-up clinics.[9,19,21] One program offers a preadmission home visit assessment service.[21] Others provide inpatient geriatric consultation.[19,28]

Evidence of Impact of Existing Geriatric Assessment Units

Most of the reports from North American geriatric assessment units identified in this review strongly suggest that comprehensive geriatric assessment and rehabilitation lead to improved patient outcomes. However, only one report used a true experimental design.[17] Most of the other reports were only descriptive studies, or quasi-experimental studies with precare and postcare comparisons, inadequate to demonstrate the effectiveness of the intervention—although all of the authors gave their impressions as to the value and usefulness of their own respective units. This section considers the data and impressions from the various studies.

The most widely measured patient outcome in these studies was functional status. Improvement in functional status is obviously important, and most studies that examined this aspect showed substantial improvement during a patient's stay on a given unit.[17,19,25]

Several researchers studied the impact of geriatric units on placement location. For example, Williams studied the effects of an outpatient evaluation and placement program on patients who were referred specifically for nursing home placement. He found that only 38 percent of these patients actually needed placement in nursing homes or in chronic-care psychiatric hospitals, 39 percent needed only board and care or health-related facilities and 23 percent were able to remain home, usually with the help of community services.[4] Analysis by an independent team of experts showed that 84 percent of patients had been "appropriately" placed after the program began, compared with only 50 percent to 60 percent before the establishment of the program. At the Sepulveda Veterans Administration Medical Center, Rubenstein and co-workers showed improvement over placement locations expected by medical staff on the referring service in 48 percent of patients treated on their unit.[19] Schuman and associates showed an increase in the number of patients discharged home from their chronic-care hospital, following institution of a new geriatric service, from 29 percent to 40 percent.[9] Balaban, dealing with a relatively independent population, showed that fewer patients were discharged to institutions from the special unit than from the control group of patients treated on the other inpatient wards—14 percent versus 18 percent—but this difference was not statistically significant.[17]

Another major area of impact of geriatric assessment units is the improvement of diagnostic accuracy, usually indicated by diagnosis of new, treatable problems. One unit diagnosed an average of nearly four new treatable conditions for each patient assessed, despite the fact that each patient had just received an ostensibly complete evaluation on an acute medical or surgical ward.[19] Another unit, which stressed psychiatric along with medical assessment, found 184 new major psychiatric conditions in the 241 patients transferred from acute medical and surgical wards.[16] Most of these new diagnoses seemed to stem from an awareness of the need for thoroughness in evaluating elderly patients, instead of reflecting substandard quality of care in the referring services. Excessive use of drugs is a well-known problem facing the elderly.[29] One inpatient unit, which emphasized improvement in drug regimens, was able to show a 43 percent reduction in number of prescription drug doses taken by patients during their stays on the unit despite a concurrent increase in number of diagnoses identified.[19]

The published reports on geriatric assessment units support the contention that inadequate health care is being delivered to the elderly and that major improvements can be made. These units provide several distinct aspects of care not available to patients in usual settings. Among them are comprehensive assessment (combining psychological, social and medical assessment), care delivery by interdisciplinary teams, rehabilitation, optimal placement and long-term follow-up. The reports support the idea, first proposed in Britain, that these kinds of units can have beneficial effects on such patient outcomes as placement location, diagnostic accuracy, functional status and appropriateness of therapy.

It still remains to be proved, however, that such units do indeed produce these benefits. Many of the described improvements in patient outcomes may have occurred simply with time alone. The failure of the one controlled study[17] to show many significant benefits compared with a control group is disappointing, but it is not enough to discourage most workers in the field of geriatrics, who cite various problems with making generalizations based on that study. Additional

well-designed studies are eagerly awaited. If benefit overall can be proved, it will also be important to determine which patients benefit the most from these types of approaches, and to more appropriately select patients. The financial effects of these units also need to be examined carefully. Such units could be clearly cost-effective if able to offset expenses by reducing use of other services, such as nursing-home care, readmittance to hospital, and pharmaceutical treatment. But even if these units do lead to increased overall medical costs, they could still be shown to be cost-effective if other measurable benefits were sufficiently great.

Clinical Implications

Even without experimental data that prove their overall effectiveness, descriptive information from these units suggests several ways for physicians to improve the care for the elderly, especially the frail elderly who are being considered for long-term institutional care. These data can be grouped into three major areas: more thorough assessment, more effective interventions and more careful determination of placement.

The primary purpose of assessment is to diagnose all active and potential problems for which therapy exists, as well as to identify the factors that have a bearing on the type and location of long-term management. Assessment of elderly patients can be improved by simply applying a rigorous and thorough approach. More time, rather than less, should be spent assessing an elderly patient than a younger patient, in view of the greater number of problems and the increased difficulty in obtaining a history and carrying out a physical examination. In addition, attention to several rarely performed kinds of assessment can yield remarkable benefits. For example, a formal assessment of functional status can identify specific areas in which the patient is failing and lead to specific therapeutic, rehabilitative or social support measures that might otherwise be overlooked.[30] Formal mental status evaluation, with attention to identifying reversible forms of dementia and treatable psychiatric problems, can also provide high yields.[31] The major precipitating causes for admitting patients to institutions—mental deterioration, incontinence and recurrent falls—have many reversible causes and should be systematically worked up. Side effects or interactions from the many drugs taken by elderly patients frequently cause major deterioration and even institutionalization and should be carefully considered. Home visits can often provide clues to a patient's deterioration as well as indicate aspects of the home that can be modified to permit continued stay there (such as improved lighting, handrails, hospital bed, raised toilet seat or wheelchair). The physician should call on other health professionals (for example, visiting nurses, occupational and physical therapists, psychologists, dietitians and social workers) to perform assessments in their respective areas of expertise. Experience from assessment units and programs in North America and abroad has taught the indispensability of the team approach. Another lesson is that uncovering even a relatively small remediable problem can lead to remarkable improvements in functional status of an elderly person.

After careful assessment, therapy should begin, and in elderly patients, it frequently differs from that in younger patients. Choice of medication and dosage, for instance, are usually different, and occupational and physical therapy become especially important. Additionally, interventions by social workers and mental health professionals are often essential in maintaining an elderly person at home. As with assessment, the team approach is an important part of therapeutic intervention.

Finally, determining optimal placement for a frail elderly patient with deteriorating ability to function needs careful attention rather than a hurried decision. The objective is to match each person's needs with optimal placement and care. The decision regarding placement should be based on maximum attainable health and function, rather than merely health functioning at the time of referral. Knowledge of the different levels of institutional care available in the community (such as board and care, intermediate care, skilled nursing care and chronic-care hospital facilities) as well as community home-health services is also essential for the decision. Again, a team approach is best.

Experience from the specialized geriatric units in North America and abroad indicates that they provide three major services: assessment, intervention and optimal placement for the frail elderly. It seems clear that practicing physicians can also provide these services, in conjunction with other appropriate health professionals, as long as they have the interest in and knowledge for doing so.

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